



NEWSLETTER OF THE LONDON CHAPTER,  
ONTARIO ARCHAEOLOGICAL SOCIETY  
P.O. Box 2574, Station B, London, ON. N6A 4G9



"April", 1992

92-4

Come on out to...

## THE LONDON CHAPTER ANNUAL SUMMER PICNIC

At Grosvenor Lodge, Saturday, August 8th, 1992

1017 Western Road, London

Come on out for our annual summer picnic on August 8th, 1992, starting at <sup>3</sup>~~2~~ PM. Check out the new home of the London Chapter and receive guided tours of the facilities and grounds. As always, burgers and dogs will be provided, but people are asked to bring a dessert, salad or condiment (call Pat for further information). This year, to meet the liquor permit requirements, the Chapter will be obtaining beverages for the day (at a cost recovery basis) so don't bring your own. You can bring your own non-alcoholic beverages, however. There's plenty of parking, washroom facilities, etc., so come on out and get caught up on the latest gossip, ...er, news from the field!

PS: Don't forget to check out the London Chapter T-Shirt Contest. Information inside!

### Chapter Executive

#### President

Pat Weatherhead (438-4817)  
302-261 Platts Lane, London

#### Vice-President

Chris Ellis (657-6705)  
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#### Directors

Lorelyn Giese (679-5468)  
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Tom Arnold (667-0933)  
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#### Treasurer

Harri Mattila (672-6523)  
26 McMahan, London

#### ANNUAL RATES

Individual.....	\$15.00
Family.....	\$18.00
Institutional.....	\$21.00
Subscriber.....	\$17.00

Teresa Smith (657-0609)  
30 Montclair Ave., London

## EXECUTIVE REPORT

Grosvenor Lodge had its official opening on Wednesday, June 24th, which was a great success. The Chapter was well represented, both in volunteers who helped with the opening, and with members who showed up to sample the BBQ, take in the entertainment, and check out our new home. Also, Mike Kirby and Norma Knowlton, of the OAS Main body, came down to help us celebrate. So far, everything has gone quite smoothly, and Chapter President Pat Weatherhead can take a great deal of the credit. Pat is on the Lodge's managing committee, and is a fixture there most days. Members are welcome to drop by to visit Pat, just notify her first. You can reach her at the Lodge by calling 645-2844 during working hours, or 438-4817 otherwise.

At the opening the Ivy Foundation announced that its was donating \$50,000 to the Lodge, which will go a long ways towards setting up the facility. One of the first tasks planned is the establishment of a resource library on heritage and environmental matters. The Chapter has received a number of donations from Parks Canada, the OHF and Chapter members, which will serve as the nucleus of our component to the library. Other donations would also be welcome, and members can send books to our office care of Grosvenor Lodge, 1017 Western Road, London, Ontario N6G 1G5. On the matter of donations, the Chapter could also use some bookcases, a table for our computer (when we get it!), posters, a clock, etc. If anyone has stuff they are willing to donate, give an Executive member a call and we'll come get it.

### London Chapter T-Shirt Contest!!!!

We have resources to finally develop a T-shirt for the London Chapter! Here is your chance to stand out in a crowd (or at least have a neat work-shirt for the field!). However, before you start rushing in your order, we need to decide what will be on the shirt (this is where the contest comes in!). If you have any ideas, or are handy with pen, pencil or computer graphics, work up your own design and fire it in. We will publish all submissions in the next issue of **KEWA**, and have the membership vote on the preferred choice. The winner of the contest will get a free T-shirt for their efforts! So come on and leave a lasting legacy with your Chapter!

## SOCIAL REPORT

As indicated on the cover of this Newsletter, the annual summer picnic will be held on Saturday, August 8th. While Raymond Crinklaw had kindly offered his place again, the Executive thought it would be a good idea to hold the picnic on the grounds of our new home. Having the picnic at Grosvenor Lodge, however, has meant that the Chapter must obtain a liquor permit for the day. So, members are asked NOT to B.Y.O.B. Instead, the Chapter will purchase a couple of beer kegs from Brick Breweries, some wine, and ask for donations from Picnic-goers to help pay for the cost of the beverages. Also, as always, the Chapter will provide burgers & dogs, but members are asked to bring salads, condiments and desserts. Call Pat to for more info. Note: the Lodge grounds are quite large, perhaps we can resurrect the atlatl throwing contest??!

## EDITOR'S NOTE

This month the Chapter reaps the harvest of another paper presented during the CAA conference held in London. This article offers up the latest research Ian Kenyon has compiled on his quest for documenting the various trends in 19th century ceramics. With all of Ian's work on the subject, can an occasional publication series contribution be far off? (hint! hint!).

# SPILLED INK AND BROKEN CUPS: The Distribution and Consumption of Ceramic Tableware in Upper Canada, 1800-1840<sup>1</sup>

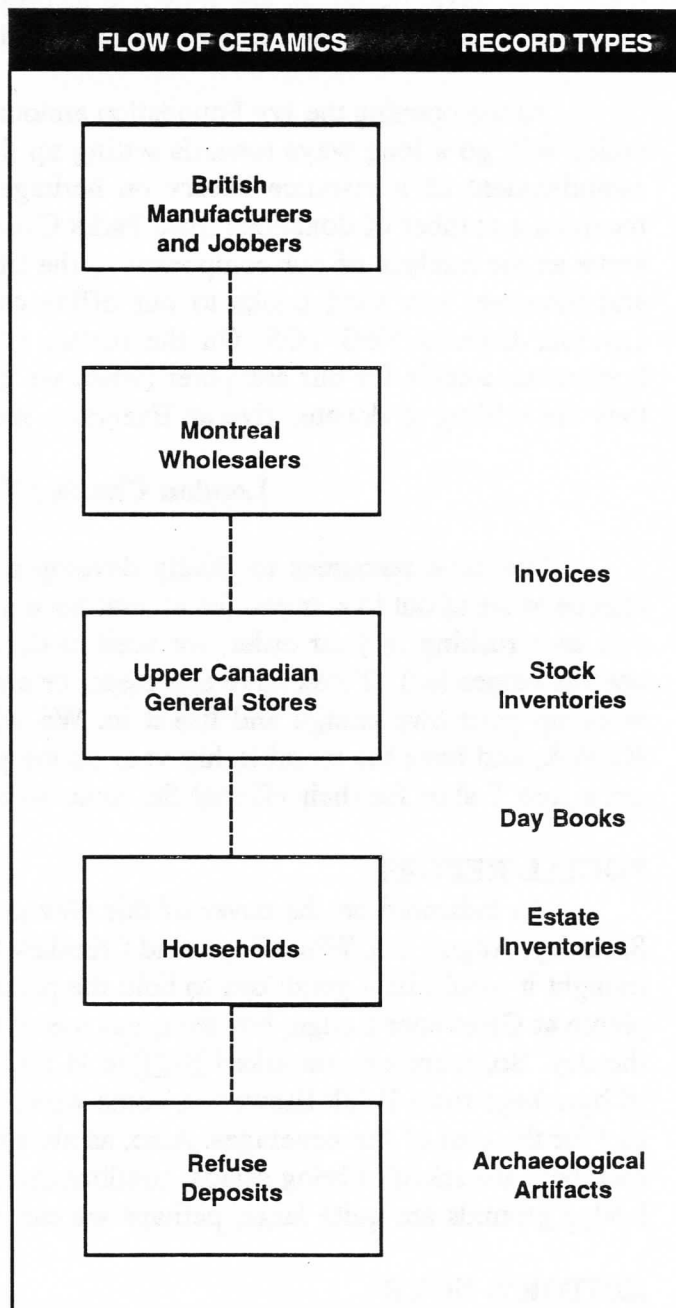
Ian Kenyon<sup>2</sup>

## Introduction

Any analysis of 19th century material culture in Ontario<sup>3</sup> needs to consider the profound changes affecting the supply of goods during the course of the century<sup>4</sup>. This paper examines one such commodity -- ceramic tableware -- within a context of economic change. The present study was prompted by an interest in developing frameworks for the analysis of archaeological ceramic assemblages<sup>5</sup>. To construct such contexts, historical records and information are invaluable, in particular the quantitative data that can be extracted from general store account books<sup>6</sup> and estate inventories.

Using a variety of sources, this paper will present an historical pattern of the flow of ceramics from wholesalers, to retailers, to consumer households, and ultimately to archaeological refuse deposits (Table this page). The main focus will be on what was called the "country trade"; that is, on the general stores -- the principal retailers of ceramics -- and their customers, who lived on the farms and in the villages of rural Ontario.

There are some good reasons for such an emphasis. In the first half of the 19th century, Ontario was predominantly a rural society. As a consequence, most general stores were in the rural areas, and most surviving documentary records are from such stores. Also most archaeological sites considered in this paper represent farmer's homesteads.





The two most common tableware vessel forms of the period were plates and what were often called "teas" (cup and saucers units); consequently, much of the ensuing analysis will look at these two forms.

In particular attention will be drawn to the seasonal sales variation typical of Ontario before 1840, and to the effect this seasonality has on the formation and interpretation of ceramic assemblages from archaeological sites.

## The Changing Economy of 19th Century Ontario

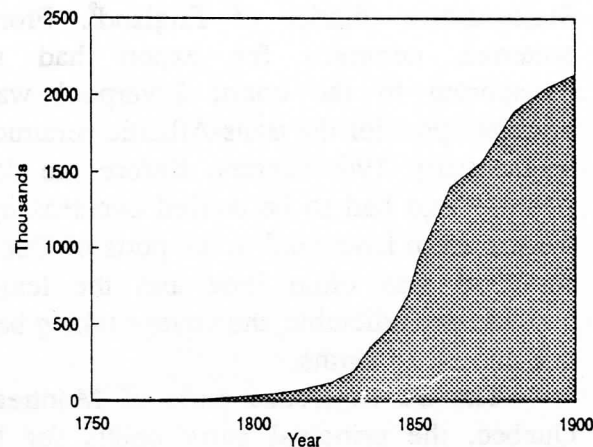
The economy of Ontario was transformed during the course of the 19th century.<sup>7</sup> Perhaps the most obvious index of this change is the growth of Ontario's population from less than 100,000 people before the War of 1812 to almost a million by 1850; in the 1830s and 1840s, particularly, there was an enormous influx of immigrants (Figure 1).

Not only did population increase but so too did the rate of urbanization. In 1825 there were only 3 communities in Upper Canada with populations over 1000; in 1850 there were 38 such urban centres. Along with urbanization, was the infilling of the countryside: by the 1880s much of the arable land in southern Ontario had been settled. There were not only more farms but increasingly productive ones, spurred by the development of improved agricultural implements and machinery in the 1840s and later.

With population growth and urbanization came development and improvement of land and water transportation networks. While the St. Lawrence River and Great Lakes form a natural waterway, Niagara Falls and the St. Lawrence rapids were physical impediments to the free passage of ships. In 1829 the Welland Canal, traversing the Niagara Peninsula, was opened; the St. Lawrence became fully navigable by ship in 1847, with the completion of the Williamsburg canal system. Road networks were also being expanded and developed in the 1830s and 1840s, especially by improvements to road surfaces through macadamizing and planking. The steam revolution vastly improved the efficiency and speed of transportation on both water and land. On the lakes steamships became widespread in the 1830s; a generation later, the railroad building boom of the 1850s insured the rapid and efficient transportation of goods and people by over land from Montreal to as far as west as Windsor and Sarnia.

There was also a commercial revolution. Early Upper Canada was a place of weak capital formation and lack of cash markets. The expansion of the 1830s and 1840s also witnessed the growth of a banking system. In all of Upper Canada there was only one chartered bank in 1820, by 1835 there were 14, and 23 by 1855. In the early 19th century Montreal dominated the wholesale trade, but by the 1830s and 1840s a critical mass was reached in the potential markets for Upper Canadian wholesalers. While some larger retailers in places like Toronto, Kingston and Niagara long had a sideline in wholesaling to smaller merchants<sup>8</sup>, in the second quarter of the 19th century, wholesaling quickly developed in growing urban centres like Toronto and Hamilton.

Broadly speaking, Ontario's economy in the 19th century divides into an "old" and "new"



**Figure 1: Population of Ontario**



economic order. Old Ontario -- Upper Canada -- was a thinly populated place, with weak capitalization, poor transportation networks, and a market dominated by Montreal wholesalers. While no single date can be set separating the old and new economies, the transformation was completed in many parts of southern Ontario by the 1840s. What follows will describe ceramic supply in the old economic order, looking from the 1790s to about 1840, concentrating on the 1820s and 1830s when historical and archaeological data becomes more plentiful.

## The Wholesalers: The Upper Canada Trade in Ceramics

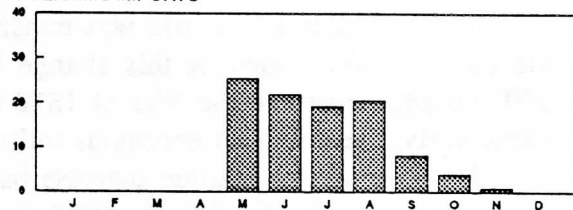
During the first half of the 19th century the ceramics trade in Upper Canada was dominated by Montreal wholesale houses. Almost all tableware ceramics used in 19th century Ontario came from Britain, most made in the Staffordshire district of England<sup>9</sup>. From the potteries, ceramics for export had to be transported to the coast; Liverpool was the principal port for the trans-Atlantic ceramic trade in the early 19th century. Before the days of steam, cargo had to be carried overseas by sail: the trip from Liverpool to the ports of Quebec or Montreal was often long and the length of passage unpredictable, the voyage taking between one and two months.

The St. Lawrence ports of Montreal and Quebec, the principal entry points for British imports, were seasonal, closed in winter by ice. In spring, the harbours again opened to receive ships that had left Britain in March or April. The shipping season lasted from April or May to November, May and June being the busiest months with a secondary peak in October.

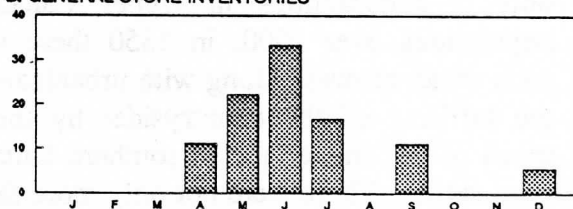
Some measure of the volume of the ceramic import business can be taken from the 1832 *Quebec Commercial List*, a weekly newspaper reporting ship arrivals and listing their cargoes, ports of origin, and clients. In 1832, the first ship of the season arrived at the port of Quebec on May 7, the first with ceramics docking on May 15. For the remainder of May many orders of ceramics arrived, totalling a quarter of the annual supply for these two weeks alone. In June, July and August of 1832 were more shipments, with arrivals falling off in September (Figure 2a). Although more than 50 merchants received ceramics, about 25% were for a single firm, Shuter and Wilkins of Montreal. Except for a single small shipment direct from China, all ceramics came from British ports, over 75% from Liverpool alone.

At the same time ships were landing in Montreal and Quebec, Upper Canadian storekeepers were taking stock of their goods in preparation for the new supply. Before 1840, inventories were

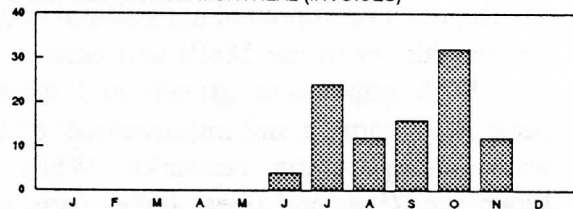
A. CERAMIC IMPORTS



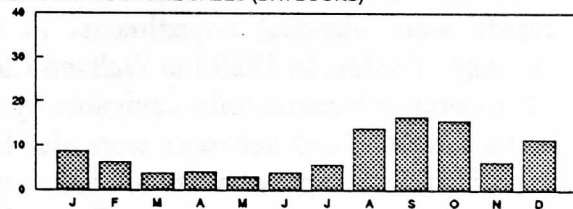
B. GENERAL STORE INVENTORIES



C. SHIPMENTS FROM MONTREAL (INVOICES)



D. GENERAL STORE SALES (DAYBOOKS)



**Figure 2: Monthly Activities (in percent)**  
 (a) Ceramic imports, 1832.  
 (b) Date of general store inventories.  
 (c) Ceramic invoice dates.  
 (d) Retail sales of plates and teas.

usually taken only once a year, often between April and early July (Figure 2b). Based on this inventory and the storekeeper's judgement of customer's needs, an order for goods would be placed with Montreal wholesalers. Crates of ceramics were then shipped from Montreal to stores in Upper Canada between July and early November (Figure 2c).

The shipment of goods from Montreal to Upper Canada was by no means a simple affair before the completion of the St. Lawrence Canal system in 1847. Goods had to be offloaded ships in the St. Lawrence, moved by small shallow-draft boats up the rapids, and again loaded on ships. Before the opening of the Welland Canal in 1829, goods being shipped to Lake Erie and beyond had to be carried by land over the Niagara Peninsula.

The uncertainties of this annual ordering and supply cycle is described by Amelia Harris recalling late in life her childhood in the very early 19th century with her family who lived in the Long Point district of Lake Erie:

*In the settlement there was no shop or store as they are called even to the present day. After mature deliberation it was decided that Sam [her brother] should commence as a storekeeper. My father early in Winter ordered a small supply of goods from Montreal which at the opening of the navigation about the beginning of May had to be forwarded by Batteau working their tedious way up the Rapids of the St. Lawrence as far as Prescott, where they were shipped on board small schooners for Queenston. At Queenston they were deposited in Ware houses and from thence forwarded by land carriage to Chippewa where they were stored until Batteaux could be hired to take them to their final destination. The process was a long and tedious one and the goods were frequently wet and damaged never arriving until late in the Autumn and frequently not until the ensuing Spring.<sup>10</sup>*

## **The Retailers: Ceramics and General Stores in Upper Canada**

In Upper Canada, general stores or shops were the principal retail outlet for ceramic tablewares. Most storekeepers<sup>11</sup> attempted to maintain a varied assortment of goods. The diverse stock of Canadian stores is illustrated by Oliver Goldsmith's 1834 poem *The Rising Village* in the section describing the country merchant<sup>12</sup>:

*Around his store, on spacious shelves arrayed,  
Behold his great and various stock in trade.  
Here, nails and blankets, side by side, are seen,  
There, horses' collars, and a large tureen;  
Buttons and tumblers, fish-hooks, spoons and knives,  
Shawls for young damsels, flannel for old wives;  
Woolcards and stockings, hats for men and boys,  
Mill-saws and fenders, silks and children's toys;  
All useful things, and joined with many more,  
Compose the well-assorted country store.*

Dry goods were the mainstay of the general store; also important were groceries, particularly whiskey, tea, sugar and tobacco. Most stores carried a line of crockery and glassware, but this was a relatively unimportant part of their trade, typically forming only about 1% to 4% of their stock (Figure 3).

## Ceramic Assortments

For smaller stores only one crate of ceramics might be ordered each year. Even so, a single crate could contain a good range of ceramic forms and types. Montreal suppliers often advertised such assorted crates "for the country trade".

For example, in the 17 July 1837 issue of the *Constitution* (Toronto), the Montreal wholesaler Thomas McAdam & Co. prominently advertised stone china and porcelain dining services priced from £20 to £60 a set:

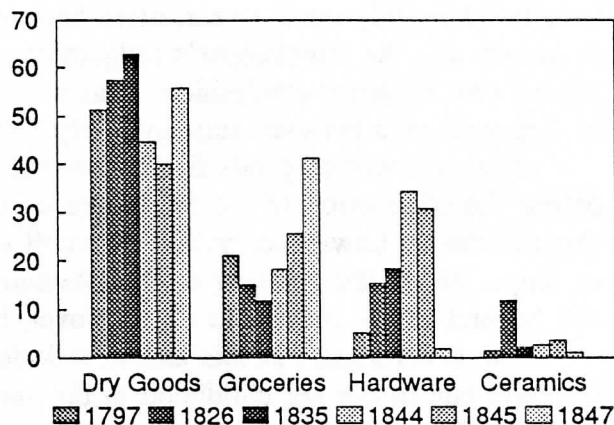


Figure 3: Value (in %) of goods for six general stores.

### CHINA, GLASS AND EARTHENWARE

#### STONE CHINA AND PORCELAIN DINING SERVICES,

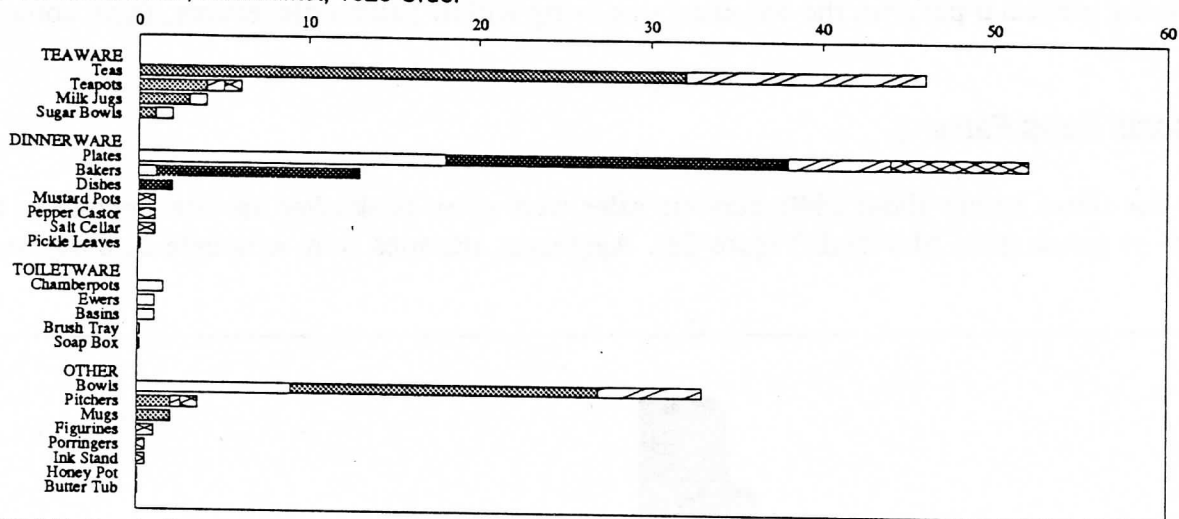
varying in price from twenty to sixty pounds, together with Dessert, Tea, Breakfast and Toilet Sets, and a great variety of Antique Mantel ornaments and splendid Flower Vases; also, Dining, Tea, Dessert and Toilet Ware; Paris White, China Glazed Ware -- together with assorted Crates and Hhds of Common and Printed Ware; Tumblers, Wines, Decanters, Wine Bottles, Stone Ginger Beer Bottles, &c.

Few such costly services would have found their way to the backwoods of Upper Canada. More significant were McAdams' offerings of assorted crates and hogsheads of "common" (painted and edged) and printed ceramic wares.

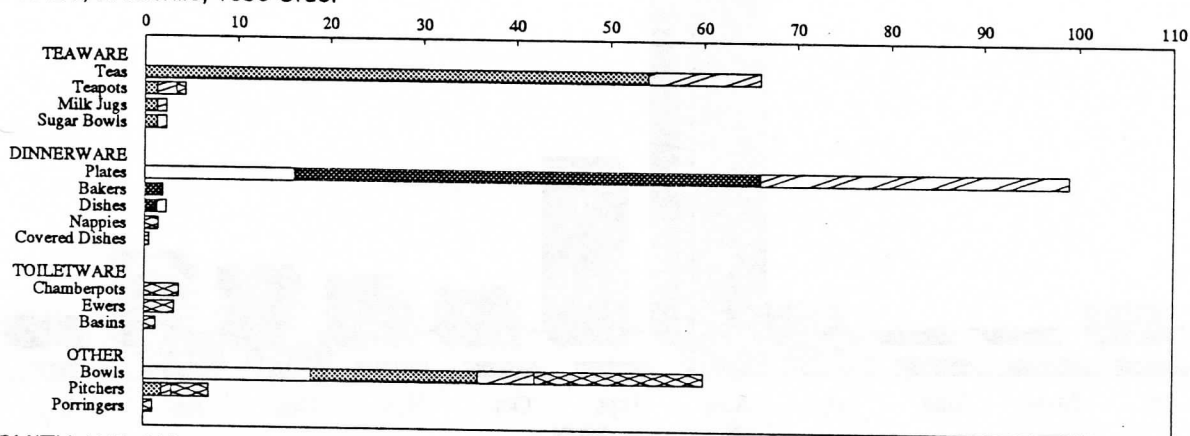
An 1836 invoice book of Charles Jones<sup>13</sup> for his Brockville store lists the contents of one of McAdams' assorted crates. It included 10 doz edged plates of five different sizes as well as 5 doz white or C.C. plates. More expensive were 9 doz. printed plates in the willow pattern, also in five sizes. There were 12 doz painted cups and saucers as well as some teapots, sugar bowls and creamers. In all, the crate contained almost 600 ceramic items, including a total of 24 doz plates and 12 doz teas; the entire crate could be purchased for only £8½, considerably less than the cost of a single stone china dining set. Such a crate would have been sufficient for the annual needs of many smaller storekeepers. Jones, however, had a fairly large business and so ordered two of these assorted crates as well as a third one containing more edged, painted and printed wares. In all, Jones' 1836 shipment cost £47, about three times the value of ceramics many smaller merchants would stock for the year.

Although a great variety of ceramics vessel forms might be ordered, teas, plates and bowls were the most common vessel forms (Figure 4). Together these three forms typically made up about three-quarters of ceramic supplies. Teaware and dinnerware was often stocked with a selection of price levels and decorative types. In teaware the main choice, in order of increasing cost, was among plain (C.C.) painted, printed and porcelain; in plates, among plain, edged and printed<sup>14</sup>. Within these decorative categories ceramics seemed to be ordered generically without





JONES, Brockville, 1836 Order



SMITH AND CHISHOLM, Burlington, 1841 Order

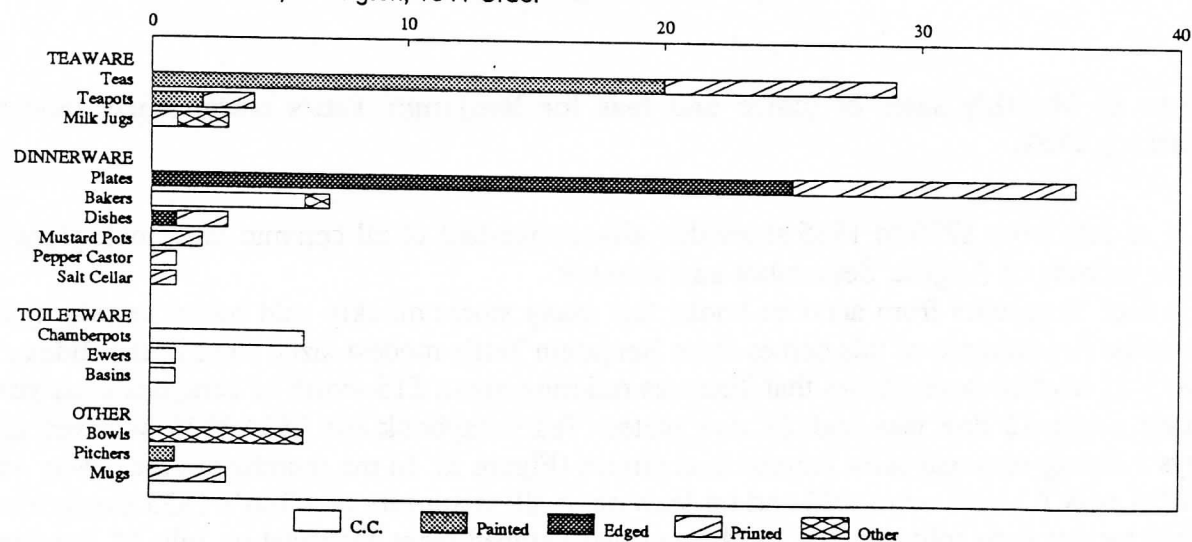
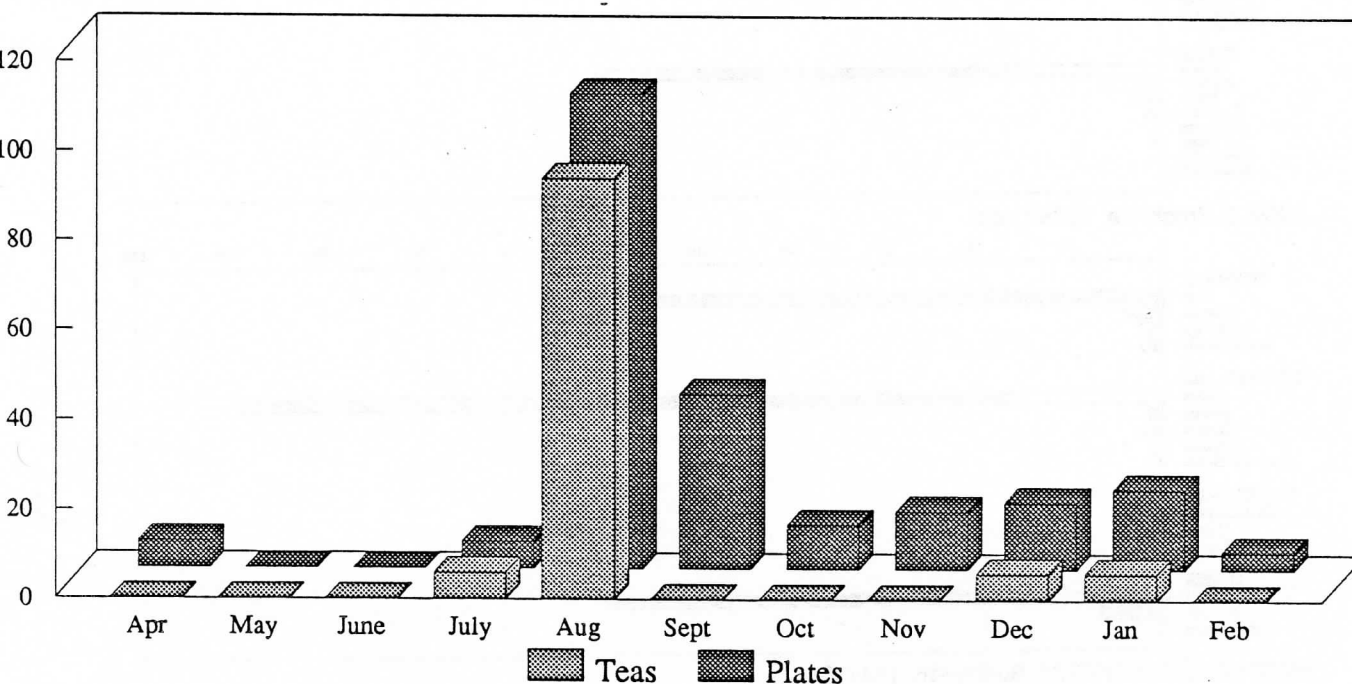


Figure 4: Vessel types and wares ordered by three merchants in 1825, 1836 and 1841.  
(Note: scale in dozens)

specifying particular patterns, the one exception being willow pattern dinnerware, fairly common after 1830.

## Seasonal Sales Patterns

For stores before about 1840, ceramic sales were often brisk after the late summer or fall arrival of goods from Montréal (Figure 2d). Aggregate statistics from a sample of 8 daybooks



**Figure 5: Monthly sales of plates and teas for Benjamin Tett's store, April 1834 to February 1835.**

ranging in date from 1796 to 1835 show that almost one-half of all ceramic sales took place in the three months of August, September and October.

In fact, it appears from account books that many stores quickly sold out of certain kinds of ceramics. An example of this comes from Benjamin Tett's modest-sized store in the Rideau<sup>15</sup>. His 1833-35 invoice book shows that Tett was ordering about £15 worth of ceramics each year, including about 12 doz teas and 24 doz plates. Tett's daybook for 1834-1835 survives and displays a strong seasonal sales pattern in ceramics (Figure 5). In the months of April, May and June 1834 only 6 plates were sold and no teaware at all; it appears that Tett's 1833 supply may have had by this time sold out. His 1834 order was shipped from Montréal on July 14, reaching Tett's store about two weeks later at the very end of the month. In early August there was a "run" on Tett's newly arrived ceramic shipment. In all, 94 teas and 106 plates were sold in August, representing the better part of his entire annual supply. Sales of plates drop in September and almost vanish by February. No teas were sold at all in September through November, and only a half-dozen each in December and January. It seems likely that Tett was virtually sold out of teaware within the single month of August.

That the strong variation in sales recorded in Tett's daybook was by no means unusual before 1840 can be shown through the statistical analysis of seasonal variation in the ceramic sales of 11 different merchants covering 22 years for daybooks ranging in date from 1797 to 1875 (Figure 6)<sup>16</sup>. When this information is examined through time, there is a sharp change between sales before and after 1840. Before 1840 ceramics sales tend to be concentrated in certain seasons of the year, after 1840 there is a much even seasonal pattern. Before 1840 there is also another characteristic absent after this time: with earlier stores the sales of teas, as opposed to plates, tends to be more seasonally concentrated.

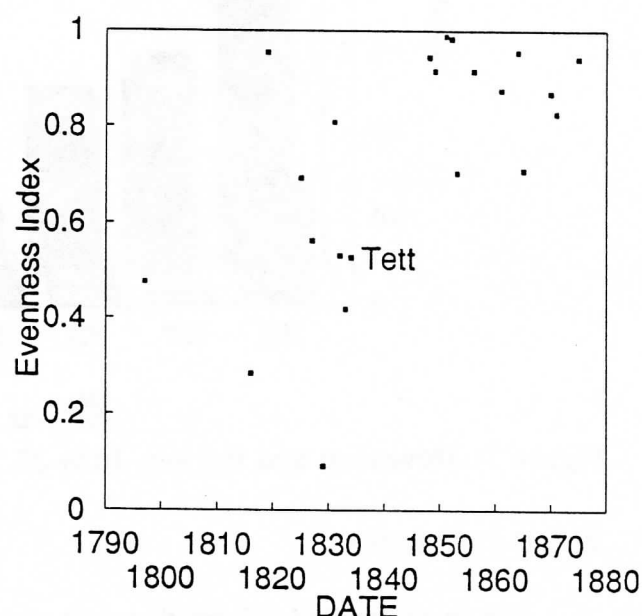
### *Ceramic Stockouts*

Stockouts or near stockouts can be seen in year-end inventories taken for the Picton store of Stevenson and Barker between 1826 and 1833<sup>17</sup>. Their inventories show that plates were mostly in good supply by year end (Figure 7). Teas, however, had vanished from their stock by the time of the 1827 inventory and were only of limited availability in 1828 and 1829. In 1830, there was a complete stockout in the supply of plates and teas, even though they had laid in their usual order of crockery from Shuter and Wilkins of Montreal in 1829. A sample of inventories for other merchants shows a similar pattern, in some cases teas being completely sold out.

Storekeepers like Benjamin Tett and David Stevenson faced the perennial dilemma of the merchant: if too much stock is laid in, excess holding costs may erode profits; if too little and a stockout occurs, potential sales may be lost. It is one thing to attempt to balance stock with demand in an economy where supplies may be readily replenished, but quite another in early Upper Canada when a storekeeper may have had only one opportunity a year to order and receive stock.

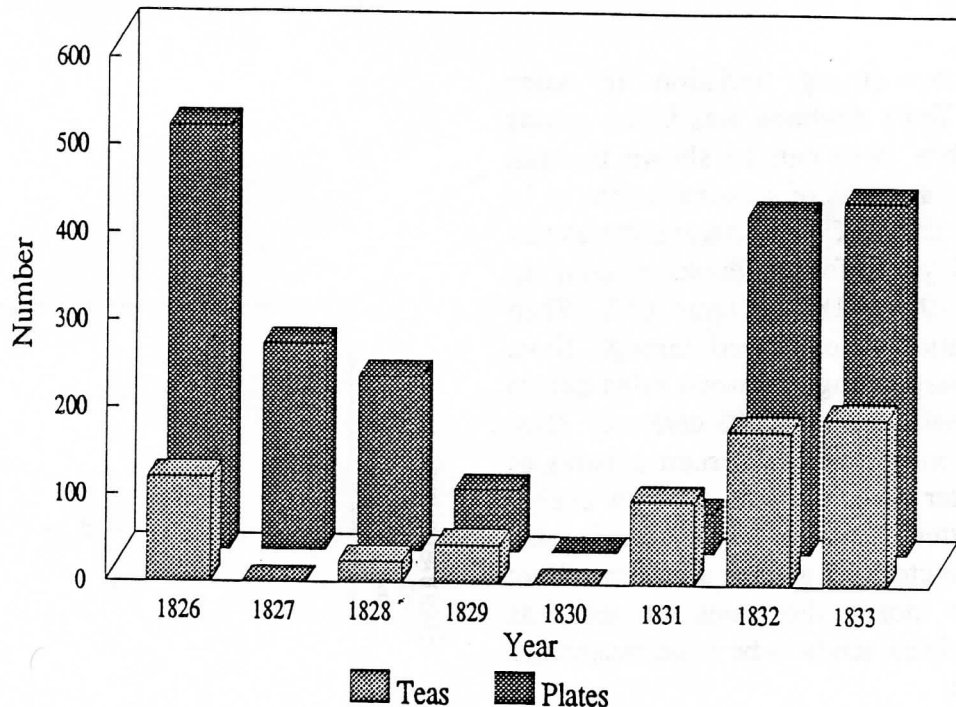
### **The Consumers: Household Ceramic Stocks**

To learn more about the consumption of ceramics in Upper Canada it is useful to consider the level of household ceramics stocks and ceramic purchase patterns.



**Figure 6: Seasonal Evenness in the sales of ceramics: note, 0 = all ceramics sold in one season; 1 = ceramics sold at same rate in all seasons.**





**Figure 7: Stevenson and Barker, 1826-33. Year end stock of ceramic plates and teas.**

### *Estate Inventories*

The most detailed information on household ceramic stocks for early 19th century Ontario comes from inventories filed with wills and other estate papers in surrogate and probate courts<sup>18</sup>. Such inventories, where they survive, may often provide detailed lists of household contents including ceramics. As a data source, however, estate inventories have certain limitations. The records are fragmentary, and frustrating in their inconsistency. Only before 1820 are inventories found in a relatively high proportion of estate files. After this, detailed inventories are less common, and become rare after 1840. As well, the sample itself may be biased in favour of richer households and, of course, to ones with aging household heads.

Not surprisingly estate inventories display great variation in the quantity of ceramics, often reflective of differences in household wealth and status. Some individuals had impressive stocks of tableware. For example, the household of Dr. Thomas Rolph, an English-born surgeon who died near Long Point in 1814, included 84 china plates, 60 earthen ones, 24 cups and saucers, and a wide variety of other dishes. Similarly the estate of Andrew Bradish of Gananoque, who died in 1817, contained in addition to thirty plates of four different sizes three separate teaset: ones of china, lustreware and earthenware. Individuals like Rolph and Bradish, however, were men of property and education, and far from typical of the average farmer or town dweller: their libraries alone were worth more than the entire contents of most of their contemporaries' houses.

In striking contrast to Rolph and Bradish were humbler households like that of John Edison, who died in the London District in 1824. The tableware ceramics in his estate consisted of one teapot, six tea cups and saucers, and six plates -- nothing more.

An analysis of 97 detailed estate inventories shows that most households, in fact, contained quantities of ceramics similar to Edison's (Figure 8). For inventories before 1820, the average number of plates and teas per household is about 9 and 6 respectively. For 1820-39 inventories, levels rise slightly to about 14 plates and 7 teas. With teas there is a strong mode at 6 per household and a secondary one at 12; plates have equal modes of 6 and 12. Uncertain is whether this apparent increase after 1820 represents a genuine growth in household stocks or a bias

created by filing estate inventories only for the more affluent.

Nonetheless, what is clear is that before 1840 the stock of household ceramics, especially for teaware, is remarkably low. Since the average household at this time would have had about 6 inhabitants, such stock levels would mean that in most households there would be a single ceramic tea per person and only one or two plates per person. With such low levels many households could not have maintained separate stocks of "best" ceramics for special occasions and "common" ones for everyday use.

Another feature of estate inventories is that the ratio of plates to teas is higher than those recorded in either store daybooks, wholesaler's invoices, or archaeological sites. Consistent with earlier observations, this discrepancy further suggests that the breakage/replacement cycle for teas was higher than that for plates.

## Purchase Patterns

General store daybooks, which record sales on a transaction by transaction basis, reveal that most teas and plates were purchased as sets of 6 units, with 12 as the second most favoured number. Teas were rarely bought in quantities of less than 6. Few teasets and almost no dinnersets were being sold by the country stores. Even plates and teas were rarely bought at the same time. Ceramic replacement seems to have been a piecemeal affair, a half-dozen or dozen teas or plates being purchased when needed.

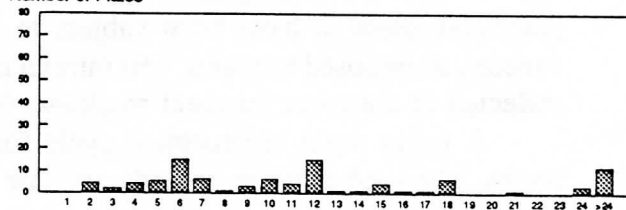
This modal purchase pattern of a half-dozen is remarkable, given that the average level of teas stocked in households was nearly the same number. At times then, ceramic stocks must have been perilously close to zero, especially considering that with the stockouts occurring in stores purchase of new ceramics may well have had to wait until the arrival of a storekeeper's fall supply.

## Breakage and Consumption Rates

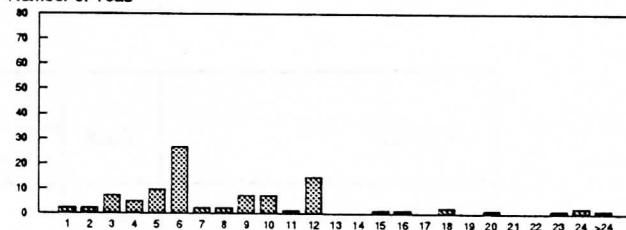
For goods like ceramics there was a chance element in demand, since demand is linked to the need for replacement ceramics and this in turn depends on the amount broken by the storekeeper's customers. To be kept in mind is the physical structure of pre-1840 ceramics. Whether the pearlwares and creamwares in wide use before 1830 or the new whitewares of the 1830s, most tableware ceramics of the period were made of a very thinly potted white

### ESTATE INVENTORIES:

#### Number of Plates

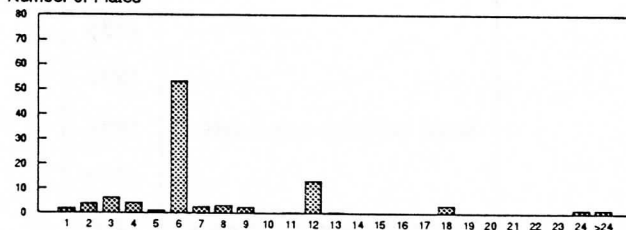


#### Number of Teas

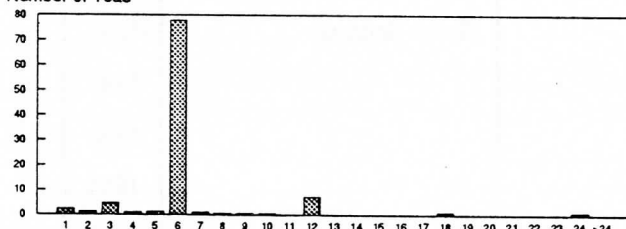


### DAYBOOK PURCHASE PATTERN:

#### Number of Plates



#### Number of Teas



**Figure 8: Number of Plates and Teas for Estate Inventories (above) and Daybook sales (below). Y-axis in percentages.**

earthenware that was by no means as durable as late 19th century pottery. Cups and saucers in particular seem to have been subject to high breakage. A higher breakage rate for cups and saucers, as opposed to plates, and thus an elevated demand, is a feature that appears to be directly reflected in the more frequent stockouts for teaware recorded in storekeeper's account books.

A fairly rapid replacement cycle for ceramics is further indicated by household account books, although detailed records are rare before 1850. One of the most extended record sets,

EVENTS	Year	Ceramic Purchases			
		Teapots	Plates	Teas	Other
Comes to Canada	1834	1			
	1835				
	1836	1			
	1837	1			Egg Cups
Starts building new house	1838				
	1839				
House chimney & flooring	1840				
House flooring	1841	2	12	9	Dishes
	1842			6	
	1843				
	1844				
	1845		6	6	Creamer?
	1846		12		
	1847			12	Sugar Bowl
	1848				
	1849	1	12		
	1850	1			Creamers
	1851			6	
	1852		12		Dishes
	1853	2			Dishes?
	1854			12	
Buys L29 Stove	1855		18	12	
	1856				
Moves to St. Catherines	1857	Spends over L8 on ceramics			

**Table II: Ceramic Purchases of a Farmer near Dunnville, 1834-1857**



although somewhat late for the purposes of this paper, comes from a farmer who lived near Dunnville between 1834 and 1857<sup>19</sup>. The two household account books left by the farmer are almost fanatical in their detail, recording every economic aspect of his life -- everything but his actual name.

The Dunnville farmer emigrated to Canada in 1834, the date when his account book opens. For the next six years he bought no teas or plates, only some teapots and egg cups. Possibly he had emigrated with a good supply of ceramics from home, as strongly recommended by a number of settlers of the period.<sup>20</sup> In any case, the Dunnville farmer may have had little money for extras since in 1838 he began building his new house, finishing its chimney and flooring in 1840 and 1841. With the completion of the house he restocked his tableware supply, purchasing 12 plates and 9 teas as well as two teapots and some dishes in 1841. For the next 15 years he continued to buy a half-dozen or dozen plates and teas every two or three years, also more teapots, dishes and other teaware. During the 1850s his farm became increasingly prosperous, judging from farm sales. In 1857 he moved to St. Catharines, spending over £8 on ceramics in furnishing his new house.

Two different purchasing patterns appear in his accounts. Certain life-cycle events seem to trigger the acquisition of entire stocks of ceramics. For the Dunnville farmer this happens when he moves into new or improved housing. As well there is a second pattern with the piecemeal replacement purchases so typical of daybook sales, teas and plates being usually bought 6 or 12 at a time, and only occasionally together. The Dunnville farmer added to his supply of plates and teas every two to three years. This suggests that the breakage rate was sufficiently high that it took only several years for his ceramic stock to drop to a level so low that his supply needed to be replenished.

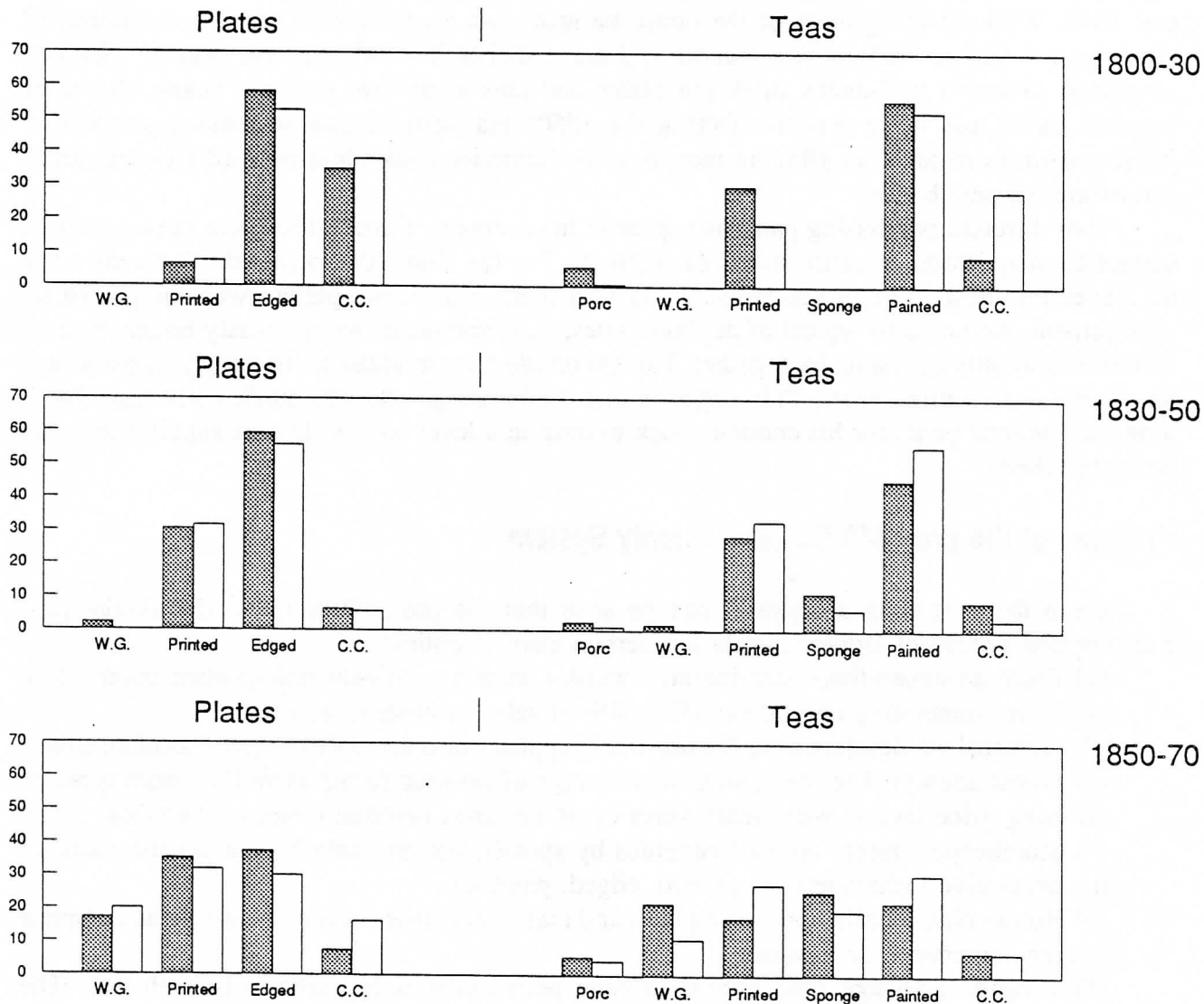
## Features of the pre-1840 Ceramic Supply System

From the preceding analysis it can be seen that the pre-1840 ceramic distribution and consumption system of Upper Canada has certain characteristics:

- (1) From an expenditure standpoint, ceramics were a relatively unimportant commodity, typically constituting only about 1% to 4% of sales in general stores.
- (2) Montreal wholesalers were the principal suppliers of ceramics to Upper Canadian stores.
- (3) Stores attempted to maintain a mixed range of ceramic forms as well as ware types of differing price levels; even small stores could obtain assorted crates of ceramics.
- (4) Storekeepers rarely ordered ceramics by specific pattern, only by the generic name of the decorative technique (e.g. printed, edged, painted).
- (5) Households usually purchased plates and teas in quantities of 6 or 12, rarely as complete sets of dinnerware or teaware.
- (6) Ceramic breakage rates appear to have been fairly high, particularly with teas. The "half-life" of 6 or 12 teas seems to have been only 2 or 3 years.
- (7) Household ceramic stocks were often low, many households had only about a half-dozen teas and only slightly more plates.
- (8) Owing to the once-a-year supply, stores were often understocked in ceramics, particularly in teas.

Many features of the pre-1840 ceramic supply system continued after this time, some persisting until the decline of the country general store after World War I. The most significant change by the mid-19th century, as discussed earlier, is a much evened seasonal sales pattern,

with fewer stockouts. During the 1840s and 1850s a number of ceramic wholesalers were established in Ontario cities, much reducing the distance between supplier and retailer. Country stores could now order stock two, three or more times a year. It was at this time too that the speed and efficiency of both land and water transportation of goods was vastly improved by development and expansion of canal, road, and rail networks.



**Figure 9: Percentages of basic decorative types of plates and teas. Note: filled bars are sites, open bars are store invoices and inventories.**

# Implications for the Analysis of Archaeological Ceramic Assemblages

The nature of the supply system in Upper Canada before 1840 has some implications for the analysis and interpretation of ceramics from archaeological sites. For the purpose of this analysis 60 archaeological ceramic assemblages from Euro-canadian domestic sites in southern Ontario<sup>21</sup> were divided into three time periods depending on the median date of the site: 1800-30, 1830-50, 1850-70.

When the averages of the decorative ware types from archaeological sites are compared to those from general store invoices and inventories, there is a close correspondence between the two data sources. A reasonable conclusion from this finding is that the samples may be broad enough to be capturing the actual relative rate of the influx of the ceramic types entering Ontario for the three time periods examined.

## *Ceramic Consumption Patterns: Correlational Structures*

Such average figures are deceptive: they mask the considerable variation existing among the sites within each time period. Differences are expectable since presumably the sites should represent households of varying social origins, stage of settlement, and wealth. Ceramic tablewares came in a variety of decorative classes (e.g. edge, printed) that sold for different prices and it is often assumed that the representation of different cost categories on sites may serve as an index of household wealth or status. That is, there should be a correlation between the wealth of a household and its expenditure on ceramics. As wealth or status increases, if this thinking is correct, then so too should:

- (a) the relative quantity of expensive teaware (ET)
- (b) the relative quantity of expensive dinnerware (EP)
- (c) the ratio of plates to teas(P/T)

The first two variables seem self-evident, but the last needs some explanation. In late 18th and 19th century formal or "high" dining, dinners were served in multiple courses, with changes of plates between each course. Staging such elaborate meals required a household to stock many dozens of plates, much more stock, in fact, than possessed by the average Upper Canadian household judging from estate inventories. At tea, however, cups and saucers do not need to be changed, so the wealthier households did not need to stock teaware in the same high numbers as dinnerware. In many less affluent households, as estate inventories show, about 6 plates and 6 teas -- one item per person -- were typical.

If the general relationships as outlined above are valid, in a sample of ceramics representative of households of varied wealth and status there should be positive correlations

Correlation Coefficients		
1830-50 SITES		
	P/T*	
% Expensive Teas (ET)	+.18	ET
% Expensive Plates (EP)	-.01	+.00
(n = 23)		
1850-70 SITES		
	P/T*	
% Expensive Teas (ET)	+.57	ET
% Expensive Plates (EP)	+.10	+.68
(n = 28)		
* P/T calculations based on plates as a percentage of the total number of plates and saucers		

**Table III: Correlational Structure**



among the three variables (P/T, EP, ET)<sup>22</sup>, since these variables should presumably increase with wealth. For the three groups of sites, samples are large enough for the 1830-50 and 1850-70 sets to test these proposed correlations. The expectation of a high correlational structure is clearly met by the 1850-70 site sample: the correlations between ET and P/T and between ET and EP are statistically significant at the .01 level. In contrast, with 1830-50 sites the correlations are essentially zero.

Similarly when the Plate/Tea ratio is plotted against the total % of expensive ceramics (combining the variables ET and EP), the resulting scattergrams (Figure 10) display a strong positive correlation for the 1850-70 sites ( $r=.45$ ), but only a random scatter for the earlier sites ( $r=.11$ ).

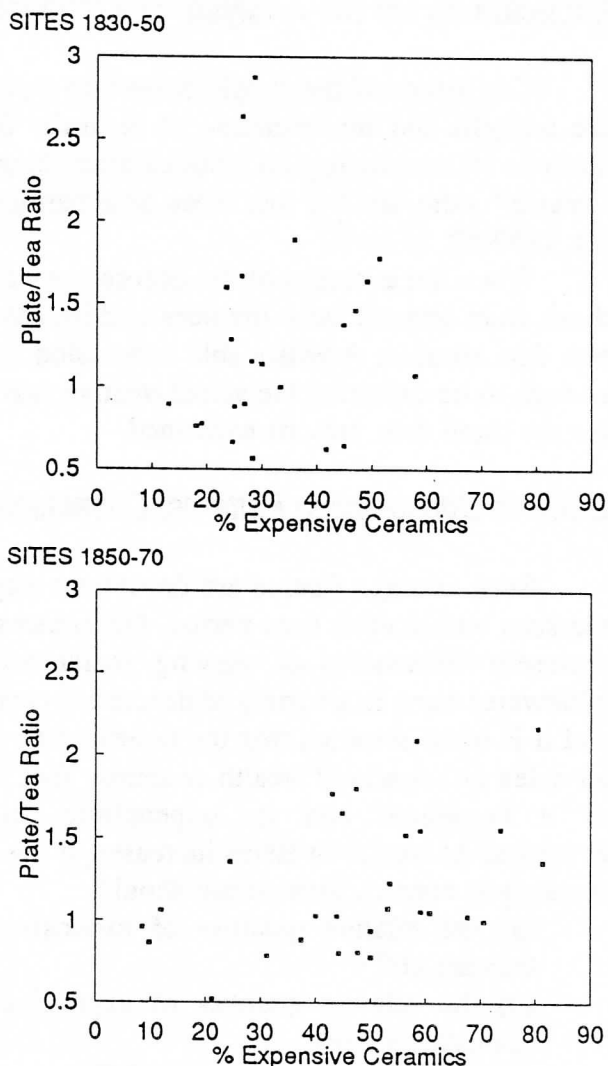
The difference between the 1830-50 and 1850-70 site samples would seem to lie with the nature of ceramic supply and distribution between the old and new economic orders discussed earlier. The 1830-50 sites were occupied, in part, during a period when ceramics were frequently out of stock, or if available not necessarily in the form or price level preferred by a consumer hoping to replenish household ceramic stocks. For the earlier sites the random elements of this prevailing economic system may have affected ceramic consumption patterns, obscuring the relationships observable in the later sites.

### *Variability of Ceramic Consumption*

In an economic system with random variability in ceramic supply and consumption, situations might occur when there are differential stockouts of ceramics; that is, ceramic items of one type being available but others out of stock. Following through with the plates/teas and expensive/inexpensive dichotomies, differential stockouts could occur:

- (a) in vessel forms, plates or teas available but not both;
- (b) in cost categories, vessel form available but only in one cost category.

Differential stockouts in cost categories might have the following consequence. A customer who needed to restock would likely purchase a ceramic vessel form regardless of price if only one cost category was available. So, then in the long run a household with a propensity to buy



**Figure 10: Percent of Expensive Ceramics and Plate/Tea Ratio**

expensive ceramics (say printed teas) would likely purchase fewer than intended and more inexpensive ones (say painted teas) owing to random stockouts. In contrast, a household with a propensity to purchase inexpensive wares would probably buy more expensive wares than intended.

The consequence is a homogenizing process resulting in a consumption pattern where there is reduced variability among households when it comes to cost categories of ceramics. Archaeologically this can be observed by looking at standard deviations as measures of variability. With teas, the 1830-50 sites display less variability than the 1850-70 sample: a standard deviation of 15.0 compared to 21.0. With plates, however, there is no significant difference in variability (standard deviations of 19.5 and 20.3), as might be expected in a supply system where plates were less likely to be out of stock than teas.

Differential stockouts in vessel forms have another consequence. Given the randomness of supply, plates and teas may go out of stock at different times. As a result, households could not always maintain the desired level of ceramic stock, sometimes low on teas, sometimes on plates. Such an increased variability in the relative quantities of plates and teas can be examined by looking at the standard deviation for the percentage of plates (of the total of plates and saucers) for archaeological sites. As predicted, the 1830-50 site sample displays a higher standard deviation (10.8) than the 1850-79 sample (s.d. 8.2).

#### SUMMARY STATISTICS FOR ARCHAEOLOGICAL ASSEMBLAGES

1830-50 SITES	Mean	Std Dev
% Plates (P/T)	53.3	10.8
% Expensive Plates (EP)	33.2	19.5
% Expensive Teas (ET)	32.5	15.0
% Expensive Ceramics (EC)	32.5	11.8
1850-70 SITES	Mean	Std Dev
% Plates (P/T)	53.2	8.2
% Expensive Plates (EP)	52.2	20.3
% Expensive Teas (ET)	45.5	21.0
% Expensive Ceramics (EC)	47.5	19.7

## Conclusions

Ceramic supply to Upper Canadian households was an uncertain affair. Weather, great distances, poor transportation, and a thinly scattered population resulted in a distributional system that was subject to seasonal shortages.

The pre-1850 site pattern is one affected by random and unpredictable elements in supply, reflected in the random relationships between the key variables. While storekeepers usually attempted to maintain an assorted stock of different vessel forms, with a selection of cost categories, at a given time such choice might be limited by stockouts. The result is that for the households in the old economic order there is a decrease in the variability of cost categories for a given vessel form, and an increase of variability in the relative quantities of vessel forms.

With such restraints on choice and the random element introduced into ceramic consumption, it follows that attempting to gauge wealth or status from archaeological ceramic

assemblages from sites dating to the 1840s or earlier must be done with some caution.

With the improvements of supply by the mid-19th century, Ontario households had a greater opportunity to exercise choice, which is reflected in the higher correlation coefficients and greater variability in among sites with respect to expensive wares. The consequence is that ceramic assemblages of ca 1850-70 archaeological sites in Ontario may be more sensitive indicators of consumer choice -- and wealth/status differentiation -- than assemblages from earlier periods.

## END NOTES

1. Paper prepared for the 25th Annual Meeting of the Canadian Archaeological Association, held in London, Ontario, May 6-10, 1992, and presented in the session "Developing Context in Historical Archaeology", organized and chaired by Dena Doroszenko.
2. Ontario Heritage Foundation & Ontario Ministry of Culture and Communications
3. "Ontario" became the name of the province with Confederation in 1867: in this paper it will be used to describe the geographical area regardless of date. Upper Canada was Ontario's name between 1791 and 1841, the period that is the focus of this paper.
4. Ceramic supply in northern Ohio is discussed by George Miller and Silas Hurry in "Ceramic Supply in an Economically Isolated Frontier Community: Portage County of the Ohio Western Reserve, 1800-1835," *Historical Archaeology*, Vol. 17, pp. 80-92 (1983). Like Ontario, early 19th century northern Ohio was chronically short of ceramics. Supply in Ohio improved with the opening of the Erie Canal in 1825, which linked Lake Erie directly to New York City.
5. A previous paper looks at the general availability of ceramic wares in Ontario through time: "A History of Ceramic Tableware in Ontario, 1780-1890", prepared for distribution at "An Introduction to English Ceramics for Archaeologists Workshop", sponsored by the Association of Professional Archaeologists, and held on 20 April 1991 in Toronto. That paper was compiled and updated from a series of articles that appeared in *Arch Notes: Newsletter of the Ontario Archaeological Society*: May/June 1985, pp. 41- 57; Sept/Oct 1985, pp. 13-28; Nov/Dec 1985, pp. 14-21; Nov/Dec 1987, pp. 22-25; March/April 1988 pp. 5-8; Nov/Dec 1988, pp. 7-9.
6. Different types of general store account books include:
  - Daybooks*, which recorded the daily sales. From these it is possible to determine who bought what, when and for how much.
  - Inventories* or year end lists of goods still in stock. These were usually taken in winter or early spring, so that the merchant could determine what types and quantities of goods needed to be reordered.
  - Invoices*, which are detailed lists of goods sent by wholesalers to storekeepers, and kept loose in bundles, pasted into albums, or transcribed into "invoice books".The various classes of mercantile documents are outlined in Lewis Atherton, "The Cataloging and Use of Western Mercantile Records", *The Library Quarterly*, Vol. 8, pp. 189-199 (1938); Douglas McCalla, "Accounting Records and Everyday Economic Life in Upper Canada, 1790-1850," *Archivaria*, Vol. 21, pp.149-157, (Winter, 1985-86).
7. Much of the discussion in this section is taken from the following sources : Mary Quayle Innis, *An Economic History of Canada* (1954); W.T. Easterbrook and H.G.J. Aitken, *Canadian Economic History* (1958); William L. Marr and Donald G. Paterson, *Canada: An Economic History* (1980); Gilbert N. Tucker, *The Canadian Commercial Revolution, 1845-1851* (1964); R. Louis Gentilcore

and David Wood, "A Military Colony in a Wilderness: The Upper Canada Frontier", in *Perspectives on Landscape and Settlement in Nineteenth Century Ontario*, edited by J. David Wood, pp. 32-50 (1975); G. P. deT. Glazebrook, *A History of Transportation in Canada*, Vol. 1 (1964); Jacob Spelt, *Urban Development in South-Central Ontario* (1972); John C. Weaver, *Hamilton, An Illustrated History* (1982); Douglas McCalla, *The Upper Canada Trade, 1834-1872: A Study of the Buchanans' Business* (1979).

8. T.W. Acheson, "The Nature and Structure of York Commerce in the 1820's", *Canadian Historical Review*, Vol. 50, pp.406-28 (1969).
9. The standard work on the history of the Canadian ceramics business is Elizabeth Collard, *Nineteenth-Century Pottery and Porcelain in Canada* (1967).
10. James J. Talman (editor), *Loyalist Narratives from Upper Canada* (Toronto, 1946), p.137.
11. The economics of early 19th century Ontario stores, in particular the credit system, has been analyzed by Douglas McCalla: "The Internal Economy of Upper Canada: New Evidence on Agricultural Marketing before 1850", *Agricultural History*, Vol. 59, pp. 397-416 (1985); "Rural Credit and Rural Development in Upper Canada, 1790-1850," in *Patterns of the Past: Interpreting Ontario's History*, edited by Roger Hall, William Westfall and Laurel Sefton MacDowell, pp. 37-54 (1988).
12. *Nineteenth-Century Narrative Poems*, edited by David Sinclair, p. 6. McClelland and Stewart Limited, Toronto.
13. Ontario Archives, Yonge Mills Records, Invoice Book 1834-38, MU3184.
14. Prices are examined by George Miller in his articles on ceramic scaling: "Classification and Economic Scaling of 19th Century Ceramics", *Historical Archaeology*, Vol. 14, pp. 1-40 (1980); "A Revised Set of CC Index Values for Classification and Economic Scaling of English Ceramics from 1787 to 1880," *Historical Archaeology*, Vol. 25, pp. 1-25 (1991).
15. Queen's Archives, Tett Papers, Invoice Book and Day Book B.
16. Technically, sales of ceramic plates and teas were divided into the four seasons of the year. The index, ranging from 0 (uneven, all sales in one season) to 1 (even distribution, sales the same in all seasons) is the McIntosh Evenness Index, as defined in E.C. Pielou, *An Introduction to Mathematical Ecology* (1969), pp. 234-35.
17. University of Guelph Library, Wellington County Room, Goodwin-Haines Collection, Barker & Stevenson Inventory Book.
18. Estate papers are contained in the Ontario Archives, R.G. 22, Records of the Probate and Surrogate Courts.
19. Metropolitan Toronto Library, Baldwin Room, account books of a farmer near Dunnville.
20. One settler writing home in 1821 told his siblings that: "We hope you bring a good supply of them [ceramics] with you, for they are a dear article here: a bowl you will get at home for 2d., you will pay 9d for it here: we would have like to have had more, seeing we have got them so well preserved" cited in Robert Lamond, *A Narrative of the Rise & Progress of Emigration*, p. 91 (1821).

See also Catherine O'Brien's 1824 letter home in Richard Reid (editor), *The Upper Ottawa Valley to 1855: A Collection of Documents*, p. 25 (1990).

21. The sites are in southwestern and southcentral Ontario; by period the sample is as follows:

Period	No. Sites
1800-30	9
1830-50	23
1850-70	28

With one exception (data provided by Gary Warrick for Barnum 1), all analyses were conducted by myself, or by Christine Dodd under my general guidance. The counts were made by analyzing rim sherds, and from these determining vessel form and decorative type. These are minimum vessel counts: rims that appear to come from the same vessel are grouped together and only counted once. Sites are assigned to the three periods based on the median date of the site. The actual occupation date ranges of the sites do not, of course, neatly fit with such a periodization.

22. The percentages of expensive ceramics were obtained by dividing the various types into relatively expensive and inexpensive groups:

**Expensive**

- Porcelain
- Printed, including flown
- White Granite (W.G.) or Ironstone

**Inexpensive**

- Painted
- Edged
- Sponged and Stamped
- Plain or C.C.

The plate/tea ratio for sites was obtained by dividing the number of plates by the number of saucers.